

Comparisons of Job Characteristics

Focus Occupation: **Chemists (19-2031)**

Associated Occupation: **Animal Scientists (19-1011)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 52

Focus Occupation: Chemists (19-2031)

Associated Occupation: Animal Scientists (19-1011)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Biology	3.7	21.1	6.8	<< Extensive education and/or training may be required
English Language	11.2	17.2	13.3	<< Extensive education and/or training may be required
Food Production	2.1	17.2	1.7	<< Extensive education and/or training may be required
Mathematics	9.2	15.7	17.0	0 Current knowledge level may be sufficient
Chemistry	4.8	14.9	21.8	>> Current knowledge level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 88

Focus Occupation: Chemists (19-2031)

Associated Occupation: Animal Scientists (19-1011)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Reading Comprehension	10.7	15.4	15.7	0 Current skill level may be sufficient
Science	4.5	15.1	17.3	> Skill level is likely sufficient
Writing	9.2	14.6	13.0	< A higher skill level may be required
Judgment and Decision Making	9.4	13.3	10.2	<< Extensive development of skills in this area may be required
Complex Problem Solving	9.1	13.2	12.3	0 Current skill level may be sufficient
Systems Evaluation	6.4	10.7	7.2	<< Extensive development of skills in this area may be required
Systems Analysis	6.5	10.6	8.6	< A higher skill level may be required

Mathematics	6.2	9.8	11.4	>	Skill level is likely sufficient
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 93			
Focus Occupation: Chemists (19-2031) Associated Occupation: Animal Scientists (19-1011)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	16.5	14.9	<	Some improvement in abilities may be required
Oral Comprehension	12.5	16.4	15.9	0	Current ability level may be sufficient
Oral Expression	12.4	16.0	14.1	<	Some improvement in abilities may be required
Inductive Reasoning	10.2	14.9	13.8	0	Current ability level may be sufficient
Written Expression	9.8	14.5	13.4	0	Current ability level may be sufficient
Deductive Reasoning	10.6	14.2	13.6	0	Current ability level may be sufficient
Problem Sensitivity	11.1	13.6	12.9	0	Current ability level may be sufficient
Near Vision	11.1	12.6	13.5	0	Current ability level may be sufficient
Information Ordering	9.9	12.3	12.8	0	Current ability level may be sufficient
Category Flexibility	9.0	11.8	13.6	>	Current ability level is likely sufficient
Fluency of Ideas	7.6	11.1	9.7	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 88
Focus Occupation: Chemists (19-2031) Associated Occupation: Animal Scientists (19-1011)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Advise clients or customers	19	
Advise governmental or industrial personnel	28	
Analyze scientific research data or investigative findings	27	
Classify plants, animals, or other natural phenomena	69	
Collect scientific or technical data	30	
Collect statistical data	47	
Communicate technical information	4	
Conduct analyses or tests of organic compounds	71	
Conduct laboratory research or experiments	57	
Conduct standardized qualitative laboratory analyses	62	

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Confer with engineering, technical or manufacturing personnel	25
Confer with research personnel	50
Confer with scientists	54
Develop new products based on scientific research results	71
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop scientific or mathematical hypotheses, theories, or laws	62
Develop tables depicting data	33
Direct and coordinate scientific research or investigative studies	27
Direct implementation of new procedures, policies, or programs	60
Explain complex mathematical information	30
Identify nutritional value of foods	87
Make decisions	24
Make presentations	13
Plan scientific research or investigative studies	48
Prepare reports	8
Prepare technical reports or related documentation	22
Recommend further study or action based on research data	60
Record test results, test procedures, or inspection data	48
Resolve engineering or science problems	46
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use knowledge of investigation techniques	16
Use laboratory equipment	60
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use nutrition research techniques	81
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17
Write business project or bid proposals	48
Write research or project grant proposals	33
Write scholarly or technical research papers	36

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 82

Focus Occupation: Chemists (19-2031)
Associated Occupation: Animal Scientists (19-1011)

Tools and Technologies	Exclusivity
Business function specific software	1
Chemical evaluation instruments and supplies	10
Chromatographic measuring instruments and accessories	16
Clinical and diagnostic analyzers and accessories and supplies	18
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
General laboratory glassware and plasticware and supplies	13
Histology equipment	35
Indicating and recording instruments	2
Industry specific software	1
Laboratory baths	24
Laboratory blending and dispersing and homogenizing equipment and supplies	27
Laboratory centrifuges and accessories	13
Laboratory electrophoresis and blotting system and supplies	26
Laboratory enclosures and accessories	17
Laboratory freeze dryers and lyophilizers and accessories	40
Laboratory heating and drying equipment	13
Laboratory incubating equipment	20
Laboratory ovens and accessories	15
Laboratory pumps and tubing	23
Network applications software	1
Pharmaceutical industry machinery and equipment and supplies	31
Pipettes and liquid handling equipment and supplies	16
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Tissue culture and high throughput screening supplies	31
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.